

Listing of the Claims:

1. (Currently Amended) A heater apparatus for heating fluid, the heater apparatus comprising:

heating means including a ~~calrod~~ CALROD embedded in an electrically conductive material;

a thermally conductive mass molded to the heating means, wherein substantially all of an exterior surface of the heating means directly contacts the thermally conductive mass, wherein the heating means is in direct contact with the mass for inputting heat to the thermally conductive mass; and

the mass having a fluid flow path including a first and second channel formed therein between an inlet and an outlet and said heating means disposed between the first and second channels, the fluid flow path coupled in heat transfer relation to the heating means so that fluid in the fluid flow path absorbs heat from the thermally conductive mass, the fluid flow path open to the exterior of the thermally conductive mass.

2. (Previously Presented) The heater apparatus of claim 1 further comprising:
control means, connected to the heating means, for activating the heating means.

3. (Previously Presented) The heater apparatus of claim 2 wherein the control means further comprises:
a printed circuit board.

4. (Presently Presented) The heater apparatus of claim 2 wherein the control means further comprises:

temperature sensor means, coupled to the control means, for generating an output signal proportional to the temperature of the thermally conductive mass.

5. (Presently Presented) The heater apparatus of claim 1 further comprising fluid expansion means, wherein the fluid expansion means comprises:

a closure having an enlarged portion defining a hollow interior chamber overlaying the open ends of the fluid flow path in the thermally conductive mass.

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6. (Previously Presented) The heater apparatus of claim 1 wherein the first channel extends across one surface of the thermally conductive mass; and

the second channel extends across an opposed surface of the thermally conductive mass, the first and second channels disposed in fluid flow communication.

7. (Previously Presented) The heater apparatus of claim 6 wherein the first and second channels are disposed in fluid flow communication substantially at a center of the thermally conductive mass.

8. (Original) The heater apparatus of claim 1 wherein the heating means comprises: at least one heater element mounted in the mass.

9. (Original) The heater apparatus of claim 8 wherein the heating means is in direct contact with the thermally conductive mass over a substantial portion of its outer surface.

10. (Original) The heater apparatus of claim 1 wherein the heating means comprises: a plurality of heater elements mounted in the mass.

11. (Previously Presented) The heater apparatus of claim 1 further comprising: a controller for controlling the activation of each of the heater elements.

12. (Original) The heater apparatus of claim 1 further comprising: a closure fixed to one surface of the mass; and seal means for fluidically sealing the thermally conductive mass to the closure.

13. (Original) The heater apparatus of claim 12 wherein the seal means comprises: an O-ring disposed between the peripheral portions of the closure and the thermally conductive mass.

14. (Original) The heater apparatus of claim 1 further comprising:

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an electrical ground member electrically connected to the heating means, the ground member including a terminal and a plate electrically connected to the terminal and to the heating means.

15. (Previously Presented) A method of making a heater apparatus for heating fluid, the method comprising the steps of:

providing a heater means; and

molding a thermally conductive material into a mass having a fluid flow path including a first and second channel formed therein to the heater means with a substantial portion of the heater means in direct contact with the mass and the heater means disposed between the first and second channels.

16. (Original) The method of claim 15 further comprising the step of:

providing a ground terminal in electrical contact with the at least one heater element.

17. (Original) The method of claim 15 wherein the step of providing a thermally conductive mass further comprises the step of:

casting the mass using a sub-liquidous temperature material.

18. (Currently Amended) A method of making a heater apparatus for heating fluid, the method comprising the steps of:

providing a heater means ~~called~~ CALROD ;

fixably mounting the heater means in a mold cavity;

introducing a thermally conductive material into the mold cavity;

molding the thermally conductive material into a mass having at least one fluid flow path including a first and second channel formed therein to the heater means, with a substantial portion of the heater means in direct contact with the mass and the heater means disposed between the first and second channels; and

~~fluidically~~ fluidly coupling a fluid inlet to one end of the fluid flow path and a fluid outlet to the other end of the fluid flow path wherein fluid in the fluid flow path absorbs heat

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from the thermally conductive mass, the heat imparted to the mass by the at least one heater element.

19. (New) The method of claim 18 further comprising:

fixedly attaching an electrical ground plate on the mold cavity before introducing the thermally conductive material to establish a common ground through the heater means with the thermally conductive mass.

20. (New) The heater apparatus of claim 14, wherein the electrical ground member is fixedly attached to the heating means and establishes a common ground through the heating means with the thermally conductive mass.

21. (New) The heater apparatus of claim 20, wherein at least a portion of the electrical ground member is mounted in the thermally conductive mass.

22. (New) The heater apparatus of claim 20, wherein at least a portion of the electrical ground member is insert molded in the thermally conductive mass.